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September 1953

# SOIL CONSERVATION

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# SOIL CONSERVATION •

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ROBERT M. SALTER  
CHIEF, SOIL CONSERVATION SERVICE

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WELLINGTON BRINK  
Editor

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### JOHN DEERE MEDAL TO ISRAELSON.

To honor outstanding engineering achievement in the field of agriculture, the American Society of Agricultural Engineers has awarded the John Deere Gold Medal to Dr. Orson W. Israelson, Logan, Utah. This medalist was selected by a jury of awards consisting of the seven immediate past-presidents of the Society, and the medal was formally presented by ASAE President Ivan D. Wood of Denver, Colorado.

One of the world's highest authorities on water in dry regions, an author of renown in his field, the holder of many other honors, Dr. Israelson has been associated with the Soil Conservation Service as a collaborator.



FRONT COVER.—Corn planted and harvested along contour lines, Muskingum County, Ohio. George Pace was the photographer.

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# Little Forests of the Plains

*After 15 years the shelterbelts are proving their worth by protecting soil, crops and people from the destructive fury of the winds.*

By ELMER L. WORTHINGTON



Cross-country view of part of the shelterbelt plantings near Park River, N. Dak., fall of 1952. Those in foreground are on the Elmer Staven place.

**P**ARK RIVER, in northeastern North Dakota, has an unusual distinction. It is completely surrounded with man-planted field windbreaks, or shelterbelts, believed to be the most intensive system of tree belts to be found in the Northern Great Plains.

When the winter "stove leagues" gather in this up-to-date town of 2,000, only 35 miles south of the Canadian line, the old-timers notice the change. It is not so windy as it used to be. Although the

trees were planted primarily to help protect farm land from wind erosion, and to prevent snow from blowing, they also benefit Park River.

Planting of the shelterbelts began in 1936 as part of an SCS demonstration project. Now they are veritable little forests against the winds. The faster-growing species are now from 40 to 60 feet tall. Slower-growing species have done proportionately well. When they were planted, they were only little whips that seemed pathetically small in their surroundings.

I had a hand, as forestry specialist, in starting

NOTE.—The author is nursery manager, Soil Conservation Service, Mandan, N. D.

those tree plantings. Then I was transferred to another post. Only recently did I have the opportunity to see those plantings again, after a lapse of nearly 15 years.

Clinton Lewis of the Clinton and Albert Lewis farm, close to Park River, sums up results this way: "You bet the trees have helped. It's hard to tell where the farm would be today if it hadn't been for them, together with other wind erosion control measures."

He added that the tree protection has also helped his farm production—a statement that finds widespread agreement among farmers.

The Park River project was set up by the Soil Conservation Service as a general erosion-control demonstration for an extensive area. In its 51,000 acres were included some of the rich, nearly level land in the bed of glacial Lake Agassiz through which the Red River of the North now flows, sandy

beach lands along the old lake, and some upland covered by glacial drift.

The seriousness of the wind erosion in this area, particularly on the sandier beach lands, led to the proposal to plant trees in belts along section lines and quarter-section lines; that is, a half mile apart.

Altogether, during the 5 years of the project's operation (1935-1939 inc.), 131 miles of shelterbelts, totaling 1,576 acres, were planted. This took 1,425,000 trees, mostly supplied by the Service nurseries. Most of the project's tree plantings were made in 1936 and 1937, and they were most heavily concentrated in an area extending just north, south and west of Park River.

Some of the shelterbelts are 10 rows wide, some narrower. All have similar characteristics—low-growing shrub rows on each side, fast-growing trees in the interior that are flanked by slower-growing longer-lived species. Cottonwood and Chi-



The author measures a tree in the Staven shelterbelts. Trunk diameter was more than 14 inches at breast height; estimated height, 60 feet.



nese elm were the fast-growing species; boxelder, green ash and American elm, the slower-growing species, and Caragana, honeysuckle, lilac, willows, chokeberry and plum the shrubs.

Planting the trees did not end soil blowing immediately, of course. Often, during 1936, dust storms made it necessary for Park River to keep its street lights burning for 2 or 3 days at a time. Without them, visibility was so low that a person across the street could not be recognized.

It was the tree planters themselves who first remarked that it would be nice to come back to see this area 10 to 15 years later. Many are still there, farming the same land, prosperous, and with new homes or the old homes remodeled to meet city standards.

A mile and a half of trees were planted on the 320-acre previously mentioned Lewis farm. This farm had suffered severely from wind erosion. There was danger that most of its good land would be lost if the shelterbelts and other conservation practices used with them did not succeed. But they did succeed.

I asked Clinton Lewis if he figures that the cultivation and protection needed by the shelterbelts had been worth the chips.

"Why," he replied, "the cultivation and other work the trees needed during those first 3 or 4 years was nothing compared with the benefits I have received already and expect to receive over the next 50 years."

The Lewis brothers had a good chance to check wheat yields in 1952, when they farmed some land without shelterbelt protection as well as their own protected land. By elevator tally, their yield was 38 bushels of Mida wheat per acre of land adjacent to shelterbelts and only 25 bushels per acre on the field not so protected.

The difference, resulted partly from protection given to growing crops and partly from conservation of moisture. During winter, the tree belts did much to hold the snow on the land. In earlier years, some of the snow had been piled in big drifts around the buildings and some had been blown away.

"These trees have really helped to protect the land, but one cannot rely on them alone," the Lewises remark. "We feel that we must use other conservation practices, such as strip cropping and



May 1936: a demonstration shelterbelt soon after planting.



August 1947: the same shelterbelt, a little over 11 years old. The trees are from 10 to 35 feet tall.

stubble-mulch tillage, along with shelterbelts to be wholly safe from wind erosion."

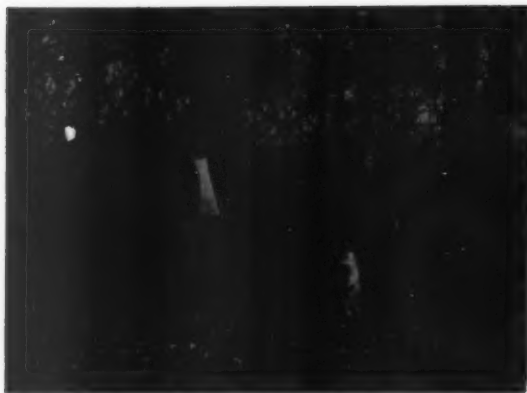
Elmer Staven, whose farm joins the Lewis place, has 480 acres which are protected by  $2\frac{3}{4}$  miles of shelterbelts. He says his land is worth 2 to 3 thousand dollars more per quarter-section with the trees than without them.

"Yields always have been better in a strip 15 to 20 rods wide, where they are protected from the winds during the growing season," Staven said.

"But, there's another side to the story.

"Years ago we would take friends who came to visit us from the east along the river road where the native timber grows. But no longer; our own area is beautiful. And for years we have gathered all the wild fruit we could use from the belts and have had lots of fruit for our friends. The shelterbelts also serve as runways and hiding places for deer, and pheasants winter in them."

Ole Thompson, who lives about 3 miles from the Stavens, said he has noticed that deer live in his shelterbelt year-round. In fact, he said, the does seem to prefer the shelterbelt to the native timber along the river as a place to have their young.



Clinton Lewis and son beside one of their shelterbelts.

But the end is not yet. The project area is now part of the Walsh County Soil Conservation District. Cooperators with the district, with the technical aid of the SCS, are planting trees at the rate of one hundred to one hundred and twenty-five thousand a year, and the farmers are buying most of the seedlings themselves. The Service supplies only some of the shrubs and conifers, and the planting is done with tree planting machines instead of by hand, as in the project days.

Fred Hulstrand, former Park River mayor, sums

it up for the townspeople: "This tree planting has been the greatest thing that our section of the country has done."

Palmer Levin, chairman of the soil conservation district board of supervisors for many years, voices feelings of farmers: "Planting shelterbelts was one of the finest things that the Soil Conservation Service did on the demonstration project to control wind erosion and snow drifting, provide wildlife habitat, and beautify the country."

The shelterbelts stirred the farmers' imagination, and present rates of planting give promise that ultimately the whole soil conservation district will have as great an array of trees.

These early tree planters—cooperators with the Park River Demonstration Project—have a word of caution, however. They remind us that tree belts require some continuing care and protection. To keep grasses from invading them, it is necessary to have the shelterbelts protected by a clean, cultivated strip on both sides and the ends. This is also a guard against fire. And they must be withheld from grazing animals, for grazing can rapidly destroy the trees' effectiveness by browsing the branches and trampling and compacting the soil. A good shelterbelt makes a poor pasture; if pastured, it soon becomes a poor shelterbelt.

## Conservation on Thirty-second Street

HERE'S what 37 young gully-fighters did with a few lunchbag-loads of topsoil, some garden tools and the enthusiasm 4th graders radiate. Mrs. Bertha Klein, teacher at Montebello School in Baltimore, Md., says the idea was entirely theirs. The idea: put a liberal treatment of soil conservation on the sloping grounds at the corner of Thirty-Second Street and Harford Road.

Strange new words like erosion, contours, and watersheds were engaging, but not like baseball, ice-cream, and recess-time. They were vague and sort of far-off, like the farms they read about in the conservation books. Their mental lights blinked on, though, when the youngsters saw pictures of green fields and forests, and also torn hillsides and mud-choked streams. Erosion, yes, that's the word—erosion was right outside the classroom windows, they told Mrs. Klein. Rills deep enough to

lose a bag of marbles, cracked down across the playground.

Naturally, they wanted to do something about it, and, as far as Montebello's principal, Miss Evelyn Girardin, was concerned, this was the best possible way to learn.

And that's how parents got used to handing Dick Stramek and Judy Hodges and all the other kids a rake, hoe or cultivator and a bagful of topsoil, along with their lunchboxes, as they headed for class a good many mornings that spring. And that's how the ugly rills got erased from the school-grounds. The kids filled them in, worked up beds and seeded them down to good grasses and legumes. When a big gully in a steep pathway stumped them, they took it to the student council and the council sent a recommendation to the city's Department of Education. As a result, the pathway will be stabilized with hedges this fall.



# Trouble Came with the Water



The ditch under construction. It is 9,250 feet long.

*This Montana farmer sought and found a better supply.*

By HAROLD J. SWAN

THE WATER came over the mountain and onto the rancher's land—and it brought things the rancher did not want. Here is a first-class illustration of the fact that conservation problems are not always born on the farms and ranches themselves.

The rancher in the case is Weldon Higham, in the Carbon County (Mont.) Soil Conservation District. He owns a 5,300-acre sheep ranch, part of which was homesteaded by his father.

"My problems," says Higham, "were caused by an irrigation supply that is unsatisfactory for this ranch. And the solution is to develop a completely new source of water—from the Clarks Fork of the Yellowstone. I had thought about this source for several years, but it took reliable technical advice to show me just what to do."

Irrigation first came to the ranch in 1895, when a canal was built on the divide between Red Lodge and the mining community of Bear Creek. Water was taken from Rock creek on the Red Lodge side and delivered to a natural waterway that passes through Bear Creek. Into the latter coal-mine tailings are dumped.

The steep slope, dropping 1,000 feet from the top of the divide to the stream below, not far from the Higham ranch, spelled trouble. The water's velocity was enough to pick up much silt and debris. By the time it reached Higham's land it was still well loaded with silt, mine tailings, and even pieces of coal up to 2 inches in diameter.

"The silt and mine tailings gave me lots of trouble," Higham explains. "Naturally, I had to run the water more slowly through the ditches. That caused it to drop part of its load. I have had to shut off the water right during an irrigation and clean the ditches.

"Even when it is spread out over the field, the water carries troublesome amounts of silt. This builds up on the land seeded to permanent-type vegetation, principally alfalfa, so that the cost of releveling becomes almost prohibitive. I've had to spend as much as \$500 releveling 40 acres so that I could water it efficiently. This had to be done every few years—every time I broke out hay or pasture land in line with the rotation of grass and legumes. Besides that, the material brought by the water was of poor quality."

Higham's troubles also included the fact that he

Note.—The author is in the information division, Soil Conservation Service, Lincoln, Nebr.

frequently needed irrigation water earlier than he could get it, that the water passed through a weed-infested gulch, that ditch maintenance was expensive, and that the water supply was insufficient.

Higham's new irrigation setup is part of a complete conservation plan now being developed with the help of Soil Conservation Service technicians assigned to the soil conservation district.

It was found that the Clark Fork could be tapped. The decision to do so was made after all other possibilities had been examined. One of the simplest solutions would have been to hook onto the Grove Creek canal several miles distant—even though it would have meant tunneling 850 feet through rock. But the ditch owners were unwilling to add to their numbers. A silt trip, proposed some years earlier,

was also considered and abandoned because the water supply was not sufficient.

Technicians selected the proper location for a pump station in the Clark Fork River, determined the size and type of pump needed, and designed the 9,250-foot supply ditch to carry the water to the irrigated land. A little more than half of the supply ditch was excavated, and the rest is on a dike built across a low area. Construction was done in 1952 by private contract.

Besides providing a source of clear water, the new irrigation layout will boost Higham's irrigated area from 390 to 430 acres.

For the time being, this rancher plans to keep on using water from his old supply, principally to fill in the part of the low area that is on the up-slope



No spoil-bank leveling needed here. The excavated dirt was loaded on dump trucks and transported to the place where a dike had to be built across a low place. The ditch was built on the dike.





This shows the kind of country through which the new irrigation ditch had to be built. Here the dragline is operating around the nose of a hill.

side of the dike. He intends to build small dikes at right angles to the ditch dike, thus creating small settling basins. Then, when the water has dropped

its load of silt and mine tailings, it will be let into the ditch.

The silt and mine tailings are poor soil material of course, but Higham believes that he can help matters by the application of large quantities of sheep manure. In addition, he will smooth up what is now a rather unsightly bank.

"Sure, this is expensive," Higham agrees. "The total will be about \$35 per irrigated acre. But when I compare this with what it cost to relevel fields periodically, and other disadvantages, I think it represents a saving.

"Further, I'll have clear water. The land will not be covered with material of low fertility any more. That will permit me to go about the job of really building up soil fertility and controlling weeds."

## Where Every \$ Grows on a Farm

By JAMES B. McBRIDE

GREER COUNTY is a relatively small agricultural county in southwestern Oklahoma. It has a total area of about 408,000 acres, nearly 95 percent of which is in farms. Aside from a small brick plant and a small granite quarry, no industries exist except those that depend directly on agriculture. More than 99 percent of all wealth that comes to the county is from the sale of agricultural commodities, mainly cotton, wheat, cattle, and other livestock products. The county's population has been declining for the last two decades. In 1930 the population was more than twenty thousand; by 1940 it had shrunk to less than fifteen thousand; and in 1950 it was less than twelve thousand. Nearly all the decline came from the farms. Urban population remained about the same during this 20-year period.

Most of the crop land and some of the grazing land has suffered moderate to severe erosion since the area was settled some 50 years ago. Productivity of the soil on most farms has been gradually declining, especially during the last 25 years. This

loss of productivity has been partially responsible for the exodus of farm families.

By January 1953 the supervisors of the Greer County Soil Conservation District had become alarmed about the continuing decline in the number of farm families. Recalling experiences of the thirties, they began a study of present conditions. They used the 1950 Agricultural Census and information from a survey of 26 southwestern Oklahoma counties made by the Public Service Company of Oklahoma as their main guides.

This study revealed that there are a total of 217 retail businesses in Greer County. The total population of the county is 11,749. Dividing the population figure by the number of businesses gives 54, the number of persons available to support each retail business. Since the county has an average of 3.16 persons per family, this means that there are about 17 families for each retail business.

The 1950 Agricultural Census reports that farmers received \$7,303,885 from the sale of farm products in 1949. This is equivalent to \$622 for each man, woman, and child in the county, or \$1,966 for each family. A small income to the county results

NOTE.—The author is work unit conservationist, Soil Conservation Service, Mangum, Okla.

from the processing of farm products, but it amounts to less than 5 percent of total income. Thus, the business potential averaged about \$33,000 per business establishment per year. The average take of the businessmen was about 30 percent, or \$10,000. From this sum each businessman had to pay salaries, and all other business expenses. Obviously, if the farm income shrinks much further the average businessman cannot operate, unless some unforeseen source of wealth is discovered.

In view of the facts cited above, the supervisors concluded that the businessmen of Greer County could and should be made to understand that their stake in the land is almost as vital as that of the farmers and ranchers. They thought it essential to create a "spirit of conservation" among the businessmen, to show them that their only real hope of business expansion lay in farmers and ranchers increasing their production per acre. They set out to create this spirit of conservation by acquainting the businessmen with these facts, and by showing them that the only practical way to increase per acre production is through the use of better conservation farming and ranching methods.

If the trend of the last 20 years continues, the picture will be dark, not only for farming but also for business. The average size of farm units in the county has been increasing as more and more farm families leave the county to seek employment elsewhere. But the production per acre has not been increasing; it has been going down where proper conservation practices are not used. Furthermore, the total actual income to the county has been falling away.

A recent survey of land use in Greer County shows the following:

Now in cropland .....	250,588 acres
Now in grassland .....	140,570 acres

Total .....	391,158 acres
-------------	---------------

But—a study of land capabilities and conservation needs recently completed by the Soil Conservation Service reveals that, for proper land use, the figures should read this way:

Cropland .....	217,734 acres
Grassland .....	173,424 acres

Total .....	391,158 acres
-------------	---------------

In other words, 32,854 acres of present cropland ought to be seeded to native grasses. This is the

equivalent of 110 farms of 300 acres each. The conversions needed no doubt would lead to many of the 110 farm families now on this land leaving the county. When 100 farm families leave, 5 or 6 business houses will suffer and most of them will close. The only alternative is to adopt the sort of farming and ranching methods which will increase the yield per acre. In the main, that means the use of soil and water conservation methods.

This is the story that the supervisors of the Greer County Soil Conservation District are trying to get over to the businessmen of the county. They hope that these businessmen will then help stimulate more interest among the farmers and ranchers and perhaps even assist, to a limited extent, in financing some of the vital activities of the district.

**BURNING ISSUE.**—Technicians and district farmers in Kentucky have found that it's an ill wind that blows nobody good.

During the disastrous fire season resulting from the severe drought last summer, SCS workers and district supervisors, along with representatives of other agencies, took an active part in promoting better fire protection. In some areas, the district supervisors were deputized as temporary assistant fire wardens to help with fire fighting activities.

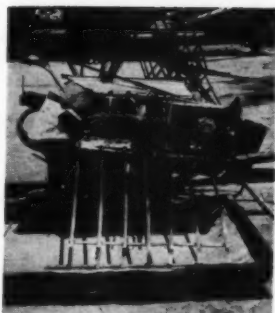
As a result of these activities, Estill, Nelson, and Fleming Counties have voted legal fire protection and similar moves are under consideration by fiscal courts in a number of other counties. In addition, a lot of local fire-protection units have been organized and the supervisors have stimulated local landowners to take additional measures for fire protection on their own lands.

Another interesting development has been the quickened interest in woodland plantings, which showed an increase of more than 2 million trees planned for farms of district cooperators during the next planting season.

**LAND USE WEEK.**—Just about everybody got in the act during Land Use Emphasis Week in Mississippi. Sponsoring agencies included soil conservation district commissioners, county agricultural workers coordinating councils, civic clubs, community clubs, chambers of commerce, the Delta Council, home demonstration councils and clubs, Farm Bureau groups, individual agricultural agencies, and industrial groups.

Negroes participated in 42 work units, and women's groups in 71.

Results are indicated in this summary: Number of organization meetings, 203; conservation talks to organized groups, 852; conservation tours (attendance, 3,304), 53; conservation news articles published, 512; conservation pictures published, 260; conservation films shown (attendance 30,000), 394; conservation advertisements published, 171; conservation displays used, 130; conservation sermons preached, 434; conservation radio programs and announcements, 106.



Sled used to catch seed shattered by binder.

# Harvesting Certified Seed

By ROY E. BALLARD

THE clear meaning of conservation can be gained by a trip to the Grand Oaks ranch in the Tehachapi (Calif.) Soil Conservation District. Owner Don Carroll, like other local ranchers, had his problems. One of them was the low organic content of the soil. The top soil was being raided by water and wind erosion. Realizing that this trend must be checked, and promptly, Don decided to try to supply organic matter as a way to check such losses.

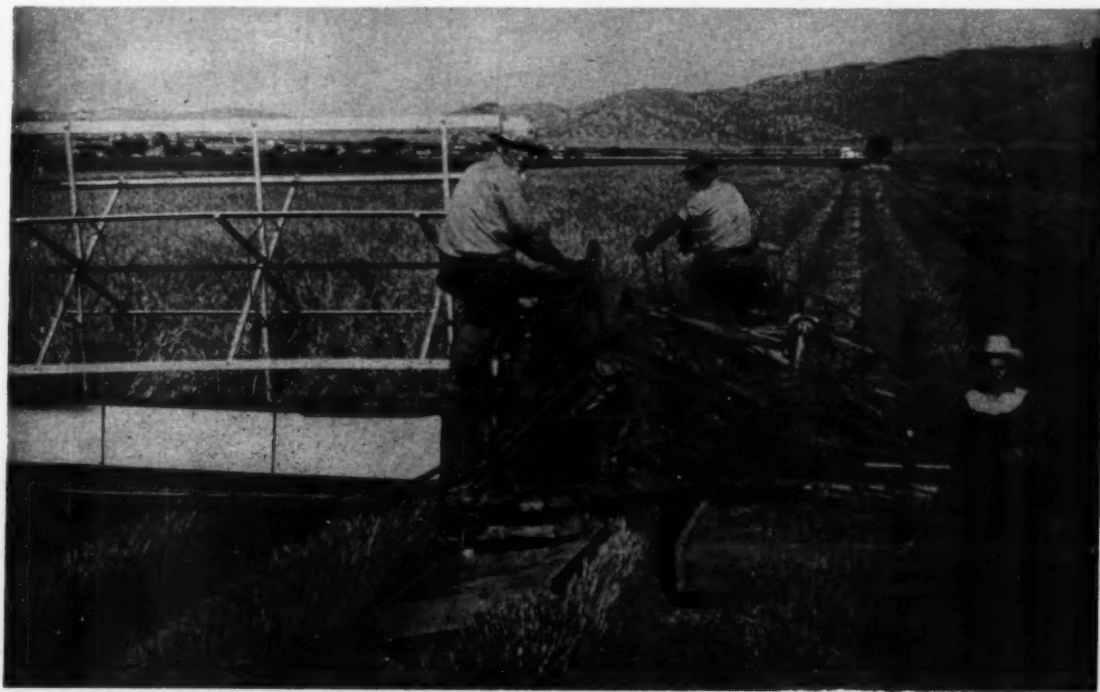
Note.—The author is work unit conservationist, Tehachapi, California.

Don's first undertaking was the production of certified seed. Atlantic and ranger alfalfa, Akaroa orchardgrass, and Goar's tall fescue would provide organic matter and vegetative cover.

What particularly irked Don was the large loss of certified seed incurred by applying standard methods of harvesting. Appreciating that it was just as essential to save the crop after it was produced as it was to conserve the soil on which the crop was grown, he determined to do something constructive.

He made a number of adjustments on his 10-foot grain binder. A pan made of  $\frac{1}{4}$ -inch metal, 45

(Continued on page 42)



Cutting Akaroa orchardgrass.

**L**AND judging—newest of judging contests—has come into its own, and is sweeping the nation.

Land judging contests usually follow land appreciation schools and show the degree of understanding contestants have of the assets and liabilities of land and their knowledge of treatments needed for its protection and improvement. Participants are taught that soil depth, texture, permeability, slope and other factors determine the capability class of the land, and that this classification is the key to using and treating the land properly.

Note.—The author is extension soil conservationist, Oklahoma A. & M. College, Stillwater, Okla.

## Do You Know Your

By EDD ROBERTS

*A new sort of contest is spreading rapidly because of a better understanding of the soil, how it should be used, and the full and continuous production of the land.*





# ow Your Land?

DD RORTS

ding idly because it sharpens the  
w it ould be treated and used for  
tinue roduction.



Here are some of the farmers in the adult division.



Members of the Tulsa Farm Club attending training school and judging contest.



Represented were India, Belgium, Colombia, Italy, Brazil, Greece, and Yugoslavia. Prof. Fenton Gray is holding shovel. Back of him, with suspenders, is Professor Baeyens of Belgium. The two men feeling soil samples are P. de Suca and Guida F. Laure, both of Italy.

←  
In the picture at left are County Agent Bob Sheets, of Guymon, Okla., and his up-and-coming 4-H Club Team: Peggy Ann Matter, Dean Gribble, and Joan Mires.

Score cards guide the judge by setting forth the factors and treatments in much the same way as in livestock or grain crops judging. His proficiency in judgments shows how far along he is on the road to becoming a conservationist—able to understand and use scientific information in his land management.

The Second National Land Judging Contest was held at Oklahoma City, April 30 and May 1. To it came 1,500 people from 14 states: New Mexico, Nebraska, West Virginia, Kansas, Missouri, Ohio, Illinois, Indiana, Iowa, New York, Florida, Arkansas, Texas and Oklahoma. There were 812 competitors for the \$1,000 in cash prizes, plaques, medals and merchandise given by WKY-TV farm radio department of Oklahoma City, the sponsors. Sandy Saunders and Harold Dedrick are the station's farm radio directors.

In the contest were 93 FFA teams from 11 states, 80 4-H teams from 6 states, 5 college teams from 2 states, and more than 100 adults from 9 states. A farmer, Sidney Spore of Kildare, Okla., placed first in the adult division. The Buffalo, Okla., FFA team was first in its department; the 4-H team from Washington County, Okla., led in the 4-H section; and the Oklahoma A. & M. College team was first in the collegiate division. The home folks made off with the laurels in this case, a fact that is serving as a challenge to the rest of the nation, where the land judging idea is catching on rapidly. Even the women are beginning to take a hand, 20 having participated in the 1953 event.

Officials of WKY and WKY-TV have announced that the Third National Land Judging Contest will be held at Oklahoma City in 1954 around May 1.

The idea had its inception at the Red Plains Conservation Experiment Station at Guthrie, Okla., with 4-H soil conservation contests in 1941. Harley Daniel, project supervisor, spent considerable time digging up fundamental research information as a basis for this method of teaching soil conservation. By 1946 the contest was carried out to the field in a big way, starting at Pauls Valley, Okla., under the wing of county agent Alton Perry and district conservationist Sam Lowe. I myself have personally supervised 289 Land Appreciation Training Schools and Judging Contests. Louis Derr, SCS soil scientist, has had a guiding hand in developing the official score card.

Land judging now has spread to some 30 other states. There has been a lively quest for information from all parts of this country and from abroad. To Oklahoma for study of the land judging contest idea have come visitors from Puerto Rico, Turkey, Israel, Portugal, Island of Cypress, Thailand, Burma, China, India, Italy, Belgium, Colombia, Brazil, Greece and Yugoslavia. Agricultural colleges are beginning to adopt the contest in their teaching. Dr. H. F. Murphy, Dr. Fenton Gray, Dr. Charles Sarthou and their associates

conducted the first college land judging contest in America at the A. & M. College at Stillwater, Okla.

Representatives of 12 southern states met at Mississippi State College last July to study this work. At least 10 states have adopted a score card. All are alike in principle. Six or seven items, such as those pertaining to texture of topsoil, permeability of subsoil, depth, slope, erosion, drainage and land capability class are found on all score cards.

Many people have been instrumental in putting the mechanism together that goes to make land judging contests successful. W. R. Tascher, extension soil conservationist of Washington, has perhaps made the biggest contribution in spreading the method from state to state.

Comments on this sort of educational work are interesting. For instance, Mrs. Louise Folk, a farm woman near Yukon, Okla. when asked the reason for her interest, said: "I have one son and 400 acres of land. My boy takes part in 4-H and judging contests, and my income is derived from land. Naturally, I'm interested in land judging."

Paul Haines, extension soil conservationist of Texas, claims, "It is the greatest teaching device ever designed. We are using it all over the state of Texas." He is supported in his view by Shawnee Brown, Oklahoma Director of Extension; Ira Hollar, State 4-H Club leader of Oklahoma; Elmo Bauman, soil scientist of the Soil Conservation Service, and John Meyers, chairman of the board of supervisors of the Logan County Soil Conservation District.

L. G. Monthey, executive secretary of the American Society of Agronomy, makes the additional point that "It may be applied in any state in the Union."

Dr. Horace Harper, director of the Noble Foundation, thinks that contests of this kind are very valuable in teaching soil management.

Farm women have accepted the land judging contests as a plain "down-to-earth" way to learn firsthand about soils and how to care for land. Mrs. Eula Barker of southern Oklahoma coached the Jefferson County 4-H Land Judging Team. She herself also placed second in the adult division of the Southern Oklahoma District Land Judging Contest sponsored by the Samuel Roberts Noble Foundation. She thinks a special division ought to be set up for women.

Miss Norma Brumbaugh, State home demonstration agent of Oklahoma, has been a great leader in formulating plans for women to study soil conservation in Oklahoma. Her conviction is that better homes, greater family incomes and more healthful and nutritious food will result from soil conservation education of women's groups. In addition, she is conscious of the vast influence which women can exert in leading boys and girls in their responsibility for conserving our natural resources.

Civic groups, agricultural organizations, banks, and board of supervisors of soil conservation dis-



Standing, at left, is Sandy Saunders, farm director of WKY and WKY-TV. The others are Extension soil conservationists: kneeling—W. R. Tascher, Washington, D. C.; Edd Roberts, Oklahoma; P. G. Haines, Texas; standing—Saunders; Evan Hartman, Nebraska; George Sharpe, West Virginia; R. C. Lind, Kansas; and L. C. Brown, New Mexico.

districts are sponsoring land judging contests in many parts of the country. The Tulsa Farm Club and the Tulsa Chamber of Commerce now sponsor an annual Northeast Oklahoma 4-H and FFA Land judging Contest. A special day was arranged this year for members of the Tulsa Farm Club, an exclusive membership of wealthy business people, landowners, and men and women in the oil industry. About one-third of the participants in this event were women.

The Bank of Woodward, sponsored a 5-county contest last April for 6 groups: 4-H and FFA members, women, men, GIs and high school girls. Authorities of the bank believe educational events of this kind will improve the agricultural industry and help to teach people to conserve soil.

Many boards of supervisors of soil conservation districts are sponsors. The board at Hobart, Okla., gave plaques costing \$25 to the highest scoring 4-H team and FFA team. This contest was directed by Tom Morris, county agent of Kiowa County, in cooperation with all local agricultural agencies.

The Carter County Soil Conservation District Board, with headquarters at Ardmore, Okla., paid the expenses of the 4-H and FFA contestants to the Second National Land Judging Contest.

A recent survey of all 48 states reveals activity everywhere. Sample excerpts from the reports:

**Minnesota.**—"We have held land judging schools in over half our counties. In September we are holding a state-wide contest."

**Michigan.**—"Land judging has been going on here about 4 years."

**Kansas.**—"We have just completed a land judging bulletin. Tentative plans are under way to conduct a state contest."

**New York.**—"A score card and literature will be prepared in July. We will get going on land judging in the fall."

**Maryland.**—"We plan to start land judging this summer in one or two counties."

**West Virginia.**—"A bulletin has just been completed and we have started the land judging work."

**Virginia.**—"Land judging has been conducted in about one-fourth of the state and we plan to double this coverage this year."

**Nebraska.**—"Plans are to train 12 county agents in land judging during the last half of 1953."

**Colorado.**—"We have one place where land judging may be started this year."

## Monocacy Improves

A NOTICEABLE improvement in fishing since soil conservation came to Monocacy River valley has been observed by Benjamin F. Phebus, regional game warden at Frederick, Md. This veteran of the State Department of Game and Inland Fish is quoted as telling sportsmen: "If good land use continues to make progress, our rivers and streams will come back as good fishing grounds in the not very distant future."

Phebus has been observing the Monocacy for most of his 68 years. He finds less mud and silt pollution, now that farmers are cultivating on the contour, and encouraging protective vegetation on streambanks and other critical areas. Water clears up much faster after a rain, he says, and signs of better fishing conditions are increasing.

The Monocacy's 970-square-mile watershed lies across three soil conservation districts. The stream rises not far from the famous Civil War battlefield at Gettysburg in Adams County, Pa., and flows southeastward through Carroll and Frederick Counties, Md., joining the main Potomac River near the town of Dickerson. A few tributaries, such as Friends Creek, were once good trout waters.

**CHURCH-FARM PARTNERSHIP.**—Technicians assigned to the Lawrence (Ill.) Soil Conservation District are working with a group of farmers which operates an 80-acre farm for a church. The church rents the farm from a district cooperator. The church members do the work and their half of the crops goes to the church. This will give the members who are not already cooperators a chance to try conservation farming before they have a plan on their own farms.



One of the huge glacial boulders being removed from mowing field.

## Remade Farm

By ARTHUR B. BEAUMONT

**T**HAT the glaciated upland soils of New England, molded and processed by nature for forests, can be transformed into some of the most productive grasslands in the world, is being demonstrated on a dairy farm in the Town of Adams, Mass. Situated in the picturesque Berkshires in the shadows of towering Mt. Greylock, this farm is owned and operated by Mr. and Mrs. Walter N. Hadala, with some assistance from high school daughter Doris. From a somewhat "rundown" farm not producing enough forage to feed 11 head of stock to a productive grassland farm carrying 37 head is the accomplishment of this family in a

NOTE.—The author is state conservationist, Soil Conservation Service, Amherst, Mass.

little over 3 years through the application of good soil management practices.

Fortunately for the Hadalas, there came an unusual opportunity to have their land improved quickly and at little cost to them. The farm proved to be just what the Berkshire Soil Conservation District and the county Extension Service were seeking for a demonstration of soil and water conservation practices. Heavy equipment moved in and did in a day jobs which ordinarily would be done by the average farmer over a period of 5 to 10 years, all according to a land use plan developed with assistance from technicians of the Soil Conservation Service. Some 30,000 people attended the demonstration, and probably as many more watched by television.

Pastures thickly studded with stones and large boulders were cleared. Several hundred feet of stonewall were either buried 6 feet deep or hauled away to a ravine. Now these fields are carpeted with grass and farm machinery rolls easily across them. A farm pond of 250,000 gallons capacity was dug near the buildings for use in case of fire and to supply emergency water for the stock. It is used now for recreation and may later be stocked with fish. A diversion terrace was constructed to pick up surface water for the pond.

A multiflora rose hedge was planted to serve as a fence between pasture and mowing, and most of it is now large enough to turn cattle. Some Class I land was cleared for crops, and some trees were planted on land not suited to agriculture. These trees are now knee to hip high.



A happy trio, assisting at time of demonstration: Walter Hadala, Doris Hadala, Alicee Hadala.





**The Hadalas here store 250,000 gallons of water for fire protection, stock water, and recreation.**

Aware that natural forest soils cannot be transformed into good croplands without the addition of lime and fertilizer or manure, the Hadalas applied

these in generous amounts before seeding or reseeding. This is why the farm is now able to produce 255 tons of early-cut grass silage and 28 tons of



**Hadala in hay field where a stone wall stood 3 years ago. With field stones and walls removed, modern farm machinery rolls along without interference.**

rowen hay in a droughty season. The hay is used for young stock and to supplement the silage. Says Walter Hadala: "When we were buying both hay and grain we knew we were working for someone else, but now when we can raise roughage like this and buy only grain, we are working part time for ourselves."

In 1949, the year the farm was made over, the herd average was 8,219 pounds of milk with 320 pounds of butter fat. Three years later the herd average was 10,939 pounds of milk and 414 pounds of fat. This was accomplished with more and better roughage, by getting rid of low producers, buying a few better cows, and raising excellent heifers that now lead their herd in production.

The Hadalas plan to continue improving the farm through establishing more conservation practices and growing better grasses and legumes. Many visitors come to take another look at the farm that had its face lifted.

## HARVESTING CERTIFIED SEED

(Continued from page 35)

inches long, 18 inches wide, 1 inch deep at one end and 5 inches deep at the other, was attached with the shallow end forward in a position to catch any seed dropping through the opening between platform and elevator canvasses. The thickness of the metal in this pan was due to the fact that a standard brace was removed. The pan was bolted on and thereby became an intrinsic part of the binder.

The seed collected by the pan empties into a sled dragged behind the binder. The sled's frame is of 2-inch lumber, 57 inches long, 30 inches wide, and 6 inches deep. The bottom is of 20-gauge metal.

A second sled is placed in such manner as to catch any seed shattered out of the bundles as they are kicked off the binder-head table. It is of 2-inch lumber with a bottom of 20-gauge metal. It is 84 inches long, 72 inches wide, 9 inches deep. It is drawn by a bracket built of 1½-inch pipe, 6 feet long.

Above the second sled are fastened 7 metal straps, each ¼ inch by 1 inch by 56 inches and spaced 7 inches apart. These straps are important. By experimentation they can be bent to the proper contour so as to control correctly the speed of the bundles traveling across them, thus permitting

loose, shattered seed to fall between them into the sled below; also, reducing shock action when the bundles hit the ground.

An added feature is a sheet of 24-gauge metal, 42 inches by 38 inches, cut to fit above the bull wheel. Seeds falling from elevator or binder-head table onto this guard are gathered into the pan at the confluence of the platform and elevator canvasses or into the sled attached under the bundle carrier.

Further, a strip of 24-gauge metal was bent into an angle with wings 1¼ inches by 1½ inches and fastened along the front edge of the binder-head table. This directed seed that might otherwise fall over the front of the binder-head table and be lost, into the sled under the bundle carrier.

The boy riding on the large sled has certain functions to perform. He regulates the speed with which the bundles slide down the metal straps, thereby assuring they will drop gently to the ground with a minimum of seed shattering. He rakes the seed from the stationary pan at the juncture of the platform and elevator, into the small sled dragged behind the binder while the turn is being made at the end of the field.

The power take-off is an invaluable aid. It eliminates the need for an auxiliary motor and enables the operator to keep the binder working even though the bull wheel has stopped. Dense growth of orchardgrass 5½ feet tall is easily harvested.

When the small sled is filled it is emptied into the large sled from which, on becoming full, the collected seed is shoveled onto a canvas placed at a convenient place on the ground.

Don says that the seed thus saved more than paid the bill for binding, windrowing and threshing. He has tried several methods of harvesting the grass seed and this one is the best he has found.

**"YOUNG" MANAGER USES NEW METHODS.**—Last year's production on Surprise Hill Farm near Fairport, Va., was greater than ever before. The owner, W. T. Covington attributes this to "improving the fertility by use of soil conserving practices." Covington is with the Northern Neck Soil Conservation District. He uses contour strip cropping of alfalfa, row crops, hay, and beans on the long slopes.

"Our manager, N. Y. Thornton is 78 years old, yet he has always been young enough to adapt himself to the new in farm machinery and better farming practices," Covington says.

# "Old Limestone Day"

By ARTHUR W. EMERSON



In the field: H. S. Blake, at left, president of Capper Publications; H. H. Bennett, at right, veteran former head of Soil Conservation Service.

(Photo by Capper Publications.)

**M**ORE than 2,500 people gathered at Mankato, Kans., recently to observe a birthday: the twentieth anniversary of the Limestone Creek Soil Conservation Demonstration Project.

Many who cooperated with this project, one of the earliest demonstrations of the modern type of soil and water conservation, were present. So were Dr. H. H. Bennett, former chief of the Soil Conservation Service; Dr. F. L. Duley, first project director, and a number of employees who began their SCS careers here. Operations got under way December 1, 1933.

Great satisfaction was expressed over the fact that so much of that early work endured.

Today all but one county in Kansas, and all of Nebraska, are in soil conservation districts. These two states have 192 soil conservation districts. This is nearly one-twelfth of the national total.

"Old Limestone Day," as the event was tabbed, was the product of the cooperation of the Jewell county soil conservation district, the Capper Pub-

lications, Radio Station WIBW of Topeka, the Mankato Chamber of Commerce, the American Legion, and local newspapers. The county agent and SCS technicians assisted.

Part of the day was spent by the 2,500 visitors on a tour over the old demonstration project, and over a number of farms more recently brought into conservation farming in the district.

Dr. Bennett reviewed the history of the soil conservation movement in the United States, and told of the tremendous progress that has been made on the farms of America.

He told about how the farmers wanted their own organization to do this job. Working together, they brought about enabling legislation in all 48 states and insular possessions of the United States so that they might do this job under their own direction. As a result, more than 2,500 soil conservation districts have been established, covering practically all of the farm land of the nation.

**MICHIGAN MILEPOST.**—Alumni of the School of Natural Resources and its predecessors, the School of Forestry and Conservation, and the Department of Forestry of the College of Literature, Science and the Arts, will gather at Ann Arbor on October 1, 2, and 3 to celebrate the fiftieth anniversary of professional instruction in forestry and allied natural resource fields at the University of Michigan.

Among the events scheduled are a meeting of the Michigan Foresters' Association on Thursday afternoon, October 1; an informal gathering of alumni and faculty at the Michigan Union, Thursday evening; a formal Convocation, Friday morning; a picnic lunch at Saginaw Forest followed by trips through Saginaw Forest, Stinchfield Woods and the Wood Technology Laboratory, Friday afternoon; a tea for the ladies at the Michigan League Friday afternoon; and a banquet Friday evening. Saturday morning will be given over to more field trips, and in the afternoon the alumni will watch the Michigan-Tulane football game.

Honorary degrees will be conferred at a convocation, which will be presided over by President Hatcher. The main address will be delivered by Dr. R. E. McArdle, chief of the United States Forest Service, and an alumnus of the School.

To commemorate the occasion, there will be published a history of the activities of the university in the teaching of forestry and allied natural resources, commencing with the first forestry instruction by Professor Spalding in the academic year 1881-82 and following through the periods of professional instruction under Professor Filibert Roth and Deans Dana and Fontanna. The publication will also contain an account of accomplishments by alumni in the various resource fields. Copies of the history will be presented to alumni at the reunion and will also be available to those who are not able to attend.

NOTE.—The author is chief, regional information division, Soil Conservation Service, Lincoln, Nebr.

# There's a Right Way to Drain

*To avoid pitfalls and achieve desired results, each drainage system must be planned and installed scientifically.*

By **LOWELL WOODWARD**

**W**ET LANDS are being made profitable in Utah. Drainage is doing it for more than 40 farmers in the Alpine, Nebo and Timpanogos Soil

NOTE.—The author is soil scientist, Soil Conservation Service, Provo, Utah.



Moroni Jensen, a farmer, and Lowell Woodward, soil technician, use an SCS power auger which is greatly expediting investigational work.

Conservation Districts, and within the last 12 months.

Some soils in these districts, lend themselves to drainage, others are questionable. Drainage depends on such things as available outlets for water, kind of soil, and source of the water.

Take the situation of H. C. Miller, who farms near Provo, for instance. Miller's land had a good drainage outlet, but the soil was extremely heavy. A system of drains about 4 feet deep was installed some years ago, but it didn't work well. It carried off a little water, but not enough.

The trouble came from a 3-foot layer of sand under most of Miller's farm at a depth of 6 to 8 feet, which was a carrier of water. An interceptor drain was laid down 7 to 11 feet deep in the layer of sand. It has been very successful, and 10 acres of swamp have been converted to highly productive crop land as a result.

Or, consider the case of Ralph Henderson, who has a 10-acre field near Spanish Fork. A swampy area in the center was becoming larger each year. He decided to quit trying to farm the entire field because it produced nothing but weeds, and his equipment got bogged down frequently. He then learned that the Nebo Soil Conservation District was doing some drainage work, and decided this might be a place to get some help.

Investigation showed, that on the upper part of the field the soil was very sandy down to 6 or 7 feet in depth. It was heavier near the center. Water moved rapidly through the sand, but slowed down and came to the surface when it reached the heavy soil; therefore, the swamp.

A 6-inch drain was installed through the lower edge of the sandy area at a depth of 6 feet. Its upper end was Y-shaped, to increase its intake of water. In a few days the land was dry enough to plow. Today no one would ever imagine that there had ever been a swamp there.

On half of a 40-acre field on the farm of Roy





A 10-acre field on Ralph Henderson's farm near Spanish Fork changed from swamp to good cultivatable land in one month after drainage. The grass sod in center foreground is where the swamp was worst.



Section of main drain on Lyman's farm. A large stream of water was developed in this drain, which is to be tiled.

Lyman, southwest of Payson, there was water at or near the surface. Drainage was a complicated problem. Part of the water came from deep springs, part through a layer of gravel. The gravel was in a layer in the upper part of the field. The water showed up where the gravel layer ended, causing the lower part of the field to be wet. Drains were placed in this layer at the edge of the wet area. These picked up an extremely large amount of water. The springs then were tapped with separate drains, but it is too early to determine their ultimate effect, although indications are that they are going to work very well.

Drainage problems are widely varied and individualistic. They must be individually assessed and solved.

Perry and Duane Harper own adjoining tracts of land at Pleasant Grove. To handle the problem on Duane's land a drain was located almost entirely on Perry's land, where there was a sand layer which was responsible for a wet area downslope.

Drainage problems seldom stop at property lines, and it is usually more economical, and often necessary, that several farmers work together on drainage problems. Land capability surveys often locate high water tables on land which may show no visible signs of need for drainage. But crops yields are poor and often the high water tables bring about trouble from alkali.

Last year, the Soil Conservation Service purchased a power auger for making drainage investigations. This auger, mounted on a jeep, samples the soil to a depth of 12 feet. It is used over the entire state, and it has two major advantages over hand augers: it is much faster, and it makes possible the sampling of gravel and sandy soils, which cannot be done by hand.

This year plans are ready for work on about 40 other Utah County farms.

Drainage will increase production on many farms, but to be effective they must be planned and installed scientifically.



**GRASSES AND GRASSLAND FARMING.**  
Hi W. Staten, 319 pp. Illus., 1952 New York:  
The Devin-Adair Company, \$5.00.

**H**I W. STATEN, in this book, has presented in an easily readable manner a good over-all picture of the value and importance of grass and its relation to grassland agriculture. Throughout the book will be found not only many practical suggestions as a result of the author's vast fund of information, but also reports of research findings in the many complex problems related to grassland agriculture. The value of grass and pasture, with all its ramifications, is interestingly described as a means of maintaining our greatest natural resource, the land.

The entire field of grassland agriculture is covered in the 17 chapters with such subjects as: establishment and management of pastures; pasture plants of the different regions of the United States; seed production; and grass improvement. A well prepared appendix combines in concise form valu-

able reference material as to the origin, adaptation, and type of growth of many of the more important grasses and legumes.

The author gives considerable attention to the different agricultural practices he has witnessed



over many years and the abuses to our grasslands as a result of plowing, over-grazing, and other forms of mismanagement. An interesting distinction is made in the Great Plains region between "Grass for the prairies," of the tall grass region, and "Grass for the Plains," or so-called short grass region. Pasture calendars are presented for many regions of the United States which illustrate in diagram form the type of pasture plants, season of use, and periods of peak production in developing a season-long or year-long pasture program.

As the title indicates the discussion is directed more specifically to the grasses and their use in grassland farming, with minor attention to the legumes except as they may be used in pasture mixtures. This book should be of concern and importance to the student, farmer, rancher, extension or research worker as a valuable and informative reference book.

—M. A. HEIN

**GOOD IDEA SELLS ITSELF.**—Jim Nedrow, a farmer near Cayuga Lake, N. Y., built two diversions in 1950. His neighbor, Jim Quigley, thought he was trying to impress with fancy farming methods, that there was no need for the "canals." He kept his skeptical eye on the field and was surprised by the amount of water diverted across sloping land.

When another neighbor, Earl Larsen, put in two diversions in 1952, Quigley began to wonder if there might not be something in the idea. When he saw the same results, noticed that Nedrow was working his fields earlier than in previous years and that his crops were more uniform and perhaps even better, Quigley asked the Tompkins County Soil Conservation District to help him do a similar job. It's being done now, and three farmers are keeping their land from moving into Cayuga Lake.

**TOUR FOR WOMEN ONLY.**—At a board meeting in the Ford County, Ill., Soil Conservation District in 1951 the point was raised that a considerable amount of land in the district was owned by women. As a result, 22 women landowners were taken on a tour. Work unit conservationist L. H. Monke obtained the assistance of the farm adviser, the soil conservationist, and Professor Longmire of the University of Illinois.

Many of the women saw a contoured field and a grass waterway for the first time. They also learned the value of a good stand of brome-alfalfa. Interest ran high. One immediate outcome was a rise in requests for assistance. A typically feminine comment was, "I want you to take over my farm and see what you can do with it."

In 1952 the program was continued with additional help from the home adviser and the Extension soil conservationist. A tour "for women only" is on the 1953 activity schedule.

**TAX REVENUES SOAR.**—Soil conservation farmers in the Northwestern Worcester County, (Mass.) Soil Conservation District, are helping the community tax situation. In 1945, three farms in the town of Barre, were assessed \$16,000 and brought \$712.18 in tax revenue to the town. By last year the assessed valuation had arisen to \$27,480 and the tax return had jumped to \$1,545.52, part of the increase being due to a higher tax rate. At the old 1945 rate, however, the tax return would have been \$1,042.12, an increase of almost 50 percent.

Increase in valuation has been due mainly to larger herds, more machinery, and improvements and additions to buildings, all made possible through better use of land under the farmers' cooperative agreement with the soil conservation district.

**PONDS PREFERRED.**—Wearied of hauling water for 15 head of dairy cattle, a 6-mile daily trip, during a 2-months' dry spell in each of 4 successive years, Charles Casto, of Putnam County, W. Va., asked the Western Soil Conservation District to help him build a farm pond. He had spent \$100 trying to drill a well and improve springs, to no avail.

Building and fencing the pond, seeding the surroundings, and piping the water 1,000 feet to his dairy barn, cost Casto \$1,050. But it has proved to be an excellent investment. The pond has supplied the herd with water since the spring of 1949. In hauling years, water was dumped into a cistern at the barn, then raised to the livestock. Other water was pumped by hand from wells and carried to the barn in tubs, during seasons when it was not being hauled 6 miles. Around the clock, throughout the year, pond water is refreshing 35 milkers and 25 other head of livestock when these animals are in barn. For drinking water in pastures, Casto has improved 3 ponds, and plans others.

**COTTON CLUB BOOMS.**—Around Altus in southwestern Oklahoma, cotton that produces a bale to the acre is considered exceedingly good.

However, there is in the area an organization—a once-exclusive group—known as the Two-Bale-an-Acre-or-Better Club with a constantly growing membership.

Top production thus far was obtained by S. E. Pickett, of Humphreys, who got 3½ bales of cotton off each of 3 acres in 1949. The crop had been preceded by alfalfa and wheat. Pickett used no fertilizer and sprayed the crop only once.

D. H. Trent, of Altus, grew 2.4 bales per acre on 11 acres in 1950, following alfalfa.

A. D. Smith, of Mangum, in 1950 gathered 30 bales from 15 acres after growing alfalfa, and the following year Roy Holsey, of Altus, took 2 bales per acre from 4 acres on which he had grown alfalfa.

Seven acres previously in alfalfa and maize produced 2.1 bales per acre for Roger Moreau, of Olustee. He had fertilized with 100 pounds of 13-39-0 and sprayed 4 times.

Herman Watts qualified for club membership in 1951 with 2-bale cotton on 10 acres after alfalfa. He used no fertilizer but sprayed 5 times.

SCS technicians are suggesting to district cooperators who'd like to join the club that they plant sweetclover or alfalfa. Both are soil-improving crops which help to break troublesome plow pan.



Results of a prescription for the land are seen here in good grazing and fat cattle on Bob Keys farm.

**DRUGGIST GETS PRESCRIPTION.**—Bob Keys and P. W. Bozeman, of Florence, Miss., bought 40 acres of idle, gullied land in the Rankin County Soil Conservation District. Keys, who is a druggist, called on the local SCS work unit conservationist for a prescription that would restore the sick land to a health condition.

The prescription read as follows: "After removing all obstructions, prepare a good seedbed, apply lime and minerals as recommended by a soils test, plant crimson clover and ryegrass on hill land for winter grazing and bahiagrass for summer. Plant tall fescue and Ladino clover on bottom land."

How well the land responded to treatment is indicated by the accompanying photograph.

**TREES FOR TOMORROW.**—People in the Monroe County (Ohio) Soil Conservation District are talking about "Pine Saturday." Led by a local minister, a church and entire community near Lewisville planted 30,000 trees in a joint project with a farmer. The farmer and the community are to share equally in any future profit from the trees. There was a picnic dinner and a short program, including an address by Governor Lausche.

**THE LAW STANDS.**—Massachusetts soil conservationists are heartened by the decision of Chief Justice Stanley A. Qua, Massachusetts Supreme Judicial Court, upholding the validity of the East Bridgewater bylaw prohibiting the stripping of topsoil from land without a permit from the town's selectmen. It was the first test of the legislative act of 1949 which permits towns to enact such a prohibitive bylaw. It means that like legislation adopted by many other Massachusetts towns can now be enforced. More than half of 22 towns in Plymouth County, where the test case originated, have this kind of legislation. Grafton and Dudley are among Worcester County towns with this type of legislation. There, control is in the hands of selectmen, soil conservation district supervisors, and the county agricultural agent. Now that they have a legal "green light," many more Massachusetts towns are preparing to enact topsoil-saving legislation.

**PINNING DOWN WATERSHEDS.**—More than 35 million pine seedlings were planted during the past season in the Tallahatchie and Yazoo River watersheds in Mississippi. Six recent plans made with the Mississippi Highway Department for roadbank protection bring under plan all state roads within the Tallahatchie River soil conservation districts.